

IN THE CLAIMS:

1. (Currently amended) A method for controlling post extra-systolic potentiation (PESP) therapy delivery, comprising the steps of:
 - detecting an initial acute myocardial ischemia condition;
 - if a[[n]] PESP therapy is currently being delivered then ceasing delivery of the PESP therapy; and
 - if a PESP therapy is not currently being delivered then initiating delivery of the PESP therapy and modifying the delivery of a PESP therapy by one of: augmenting stroke volume on at least a subsequent cardiac cycle and reducing a previously augmented stroke volume on a subsequent cardiac cycle.
2. (Currently amended) A method according to claim 1, wherein modifying the delivery of the PESP therapy comprises one of performing a refractory period test and modifying at least one therapy delivery control parameter of the PESP therapy.
3. (Currently amended) A method according to claim 1, further comprising:
 - detecting the absence of the initial acute myocardial ischemia condition subsequent to an initial affirmative initial acute ischemia condition detection via one of:
 - a T-wave segment deviation, a slowed conduction condition detected in response to an applied stimulation pulse, a decreased oxygen saturation condition;
 - and
 - modifying the PESP therapy delivery.
4. (Currently amended) A method of adapting a[[n]] post extra-systolic potentiation (PESP) therapy delivery sequence in response to an ischemia monitor output signal, comprising:

monitoring myocardial tissue for an initial acute myocardial ischemic condition and providing an output signal related to a presence or an absence of ~~[[a]]~~ the acute myocardial ischemia condition;
in the event that the output signal indicates the presence of the initial acute myocardial ischemic condition and a PESP therapy is presently being applied to the myocardial tissue, at least temporarily ceasing further delivery of the PESP therapy; and
in the event that the output signal indicates the presence of the initial acute myocardial ischemic condition and the PESP therapy is not presently being applied to the myocardial tissue, initiating delivery of the PESP therapy,
wherein the ischemic condition is detected via one of:
a T-wave segment deviation, a slowed conduction condition detected in response to an applied stimulation pulse, a decreased oxygen saturation condition.

5. (Currently amended) A method according to claim 4, further comprising:
in the event that the output signal indicates the absence of the initial acute myocardial ischemic condition and the PESP therapy is presently being applied to the myocardial tissue, then
mode-switching to a non-PESP ~~different~~ cardiac stimulation therapy modality.

6. (Previously presented) A method according to claim 4, wherein the monitoring step further comprises:
determining a variation in one of:
a cardiac conduction interval from a pacing pulse delivery to a resultant depolarization over at least two different cardiac cycles, and

a variation in a portion of a T-wave of a PQRS complex via a cardiac electrogram signal vector means for determining at least one of an onset, a presence and an absence of an ischemia condition.

7. (Previously presented) A method according to claim 6, wherein the cardiac electrogram signal vector means includes at least a one of: a tip-to-ring electrode vector, a coil-to-can electrode vector, a coil-to-coil electrode vector, a tip-to-can electrode vector, a ring-to-can electrode vector, a ring-to-ring vector.

8. (Previously presented) A method according to claim 7, wherein said method is performed via control signals generated from a computer readable medium disposed within and operatively coupled to an electronic circuit of an implantable pulse generator.

9. (Previously presented) A method according to claim 8, further comprising: wirelessly transmitting the output signal to a remote device.

10. (Previously presented) A method according to claim 9, wherein the remote device couples to a clinician information network.

11.-24. (Canceled)